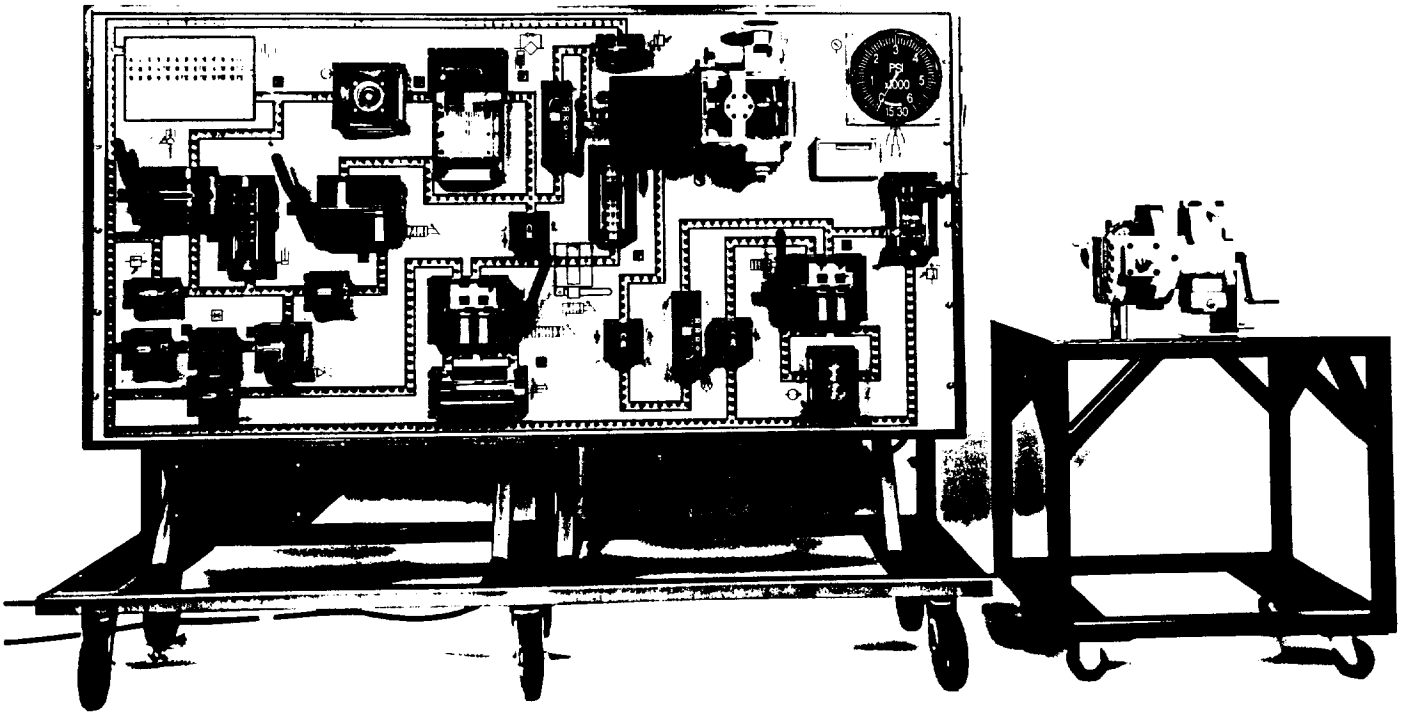
SUMMARY OF
GENERAL HYDRAULIC SYSTEMS TRAINER

February 12, 1992 DEVICE 11H139

NAVAL TRAINING SYSTEMS CENTER ORLANDO, FLORIDA



TRAINING CATEGORY:

Aviation

ORIGINATING AGENCY:

DCNO/AIR

SECURITY CLASSIFICATION OF DEVICE:

Device 11H139 is unclassified.

PURPOSE OF DEVICE:

To complement instruction of theoretical concepts, principles of operation and troubleshooting of hydraulic systems by simulating an operating hydraulic system of generic design using authentic representations of individual components.

INTENDED USE:

In Aviation Support Equipment School for classroom training of enlisted hydraulics technicians in the theoretical concepts and principles of operation of hydraulic systems components.

FUNCTIONAL DESCRIPTION:

The Hydraulic Maintenance Training System consists of trainer station and training aid.

The trainer station consists of a steel weldment with aluminum fittings and acrylic face. It rests on six lockable casters. It is provided with a cover to protect it from dust when it is not in use and individual component covers to be used in conjunction with troubleshooting of simulated failures.

The trainer station simulates a generic hydraulic system to serve as an instructional aid. On the front face of the trainer, hydraulic components are simulated by high fidelity models with clear acrylic faces or actual components cut away to reveal internal parts. Hydraulic fluid lines are simulated with lines of colored lamps. Fluid flow is represented by sequentially flashing the lamps. Fluid pressure is denoted by lamp color. When the model controls are actuated by student or instructor, the trainer exhibits the correct responses for normal or faulted conditions. Test points for taking pressure readings are represented by numbered squares. A keypad on the trainer face is used to select the test point for measurement.

An instructor panel on the side of the trainer controls power, light, trainer programming, and fault diagnosis. The operator controls trainer programming and maintenance diagnosis through a keypad and LCD display.

The training aid is mounted on a push cart. It consists of a variable displacement pump and compensator control with cutaways to reveal internal structure and operation. The pump is fitted with a crank to allow hand rotation of the mechanism. The compensator disassembles for hands-on instruction.

PHYSICAL INFORMATION

Number of pieces:	Two Major
Trainer station:	
Size:	2'x6'x8'
Weight:	1465lb
Training aid:	
Size:	2'x3'x4'1.25"
Weight:	295lb

EQUIPMENT REQUIRED (NOT SUPPLIED):

None

POWER REQUIREMENTS:

Dedicated circuit specification:

Volts:	110	±10
Amperes:	15	

PUBLICATIONS FURNISHED:

The following documentation is supplied with the training system.

Operation and Maintenance Guide, NTSC P-6863 (U)
TM2500/TM2700 OEM Microterminals, NTSC P-6863-S1 (U)
80386/32 Users Manual, NTSC P-6863-S2 (U)
Model 6402 Reference Manual, NTSC P-6863-S3 (U)
Model 5000 Reference Manual, NTSC P-6863-S4 (U)
Model PCE2 Reference Manual, NTSC P-6863-S5 (U)
Metrabus Industrial Data Acquisition and Control System, NTSC P-6863-S6 (U)
Isotrol Active Tracking Spike and Transient Suppressor, NTSC P-6863-S7 (U)
LMS-9000 Series, NTSC P-6863-S8 (U)
Dayton Motor Controller, NTSC P-6863-S9 (U)
Installation and Operation (Acopian Power Supply), NTSC P-6863-S10 (U)
Dual RS-232C Serial I/O Adapter, NTSC P-6863-S11 (U)
LFS-14 Manual, NTSC P-6863-S12 (U)

PERSONNEL:

Instructor:	Navy/Marine E-5 to E-8
Trainees:	6 to 20 each, Navy E-1 through E-4/Marine E-1 through E-7.

CONTRACT IDENTIFICATION:

Manufactured by SIMTEC Incorporated, Manassas, Virginia, under NAVTRASYSCEN Contract No. N61339-90-C-0061.